

OnTheMap for Emergency Management: User Guide

Local Employment Dynamics

OnTheMap for Emergency Management is a public data tool that provides an intuitive web-based interface for accessing U.S. population and workforce statistics, in real time, for areas being affected by natural disasters. Users can easily retrieve reports containing detailed workforce, population, and housing characteristics for hurricanes, floods, wildfires, winter storms, and federal disaster declaration areas.

Version 3 offers a number of new features to improve access to and utility of Census workforce and demographic data for emergency preparedness, response, and recovery activities including incorporating Federal Disaster Areas, Snow and Freezing Rain Forecasts, and 2010 Census demographic and housing characteristics.

This document provides an introduction to the OnTheMap for Emergency Management tool including an overview of the user interface and a series of walk through sample exercises.

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Major enhancements

New Emergency Event Data- Addition of FEMA Disaster Declaration Areas and NWS Snow & Freezing Rain Probability Forecasts

More Complete Hurricane Archives- Capture & Archiving of all Daily NHC Storm Updates

Expanded Report Content- Addition of Decennial 2010 Demographic & Housing Characteristics; 2010 Jobs & Worker Sex Data

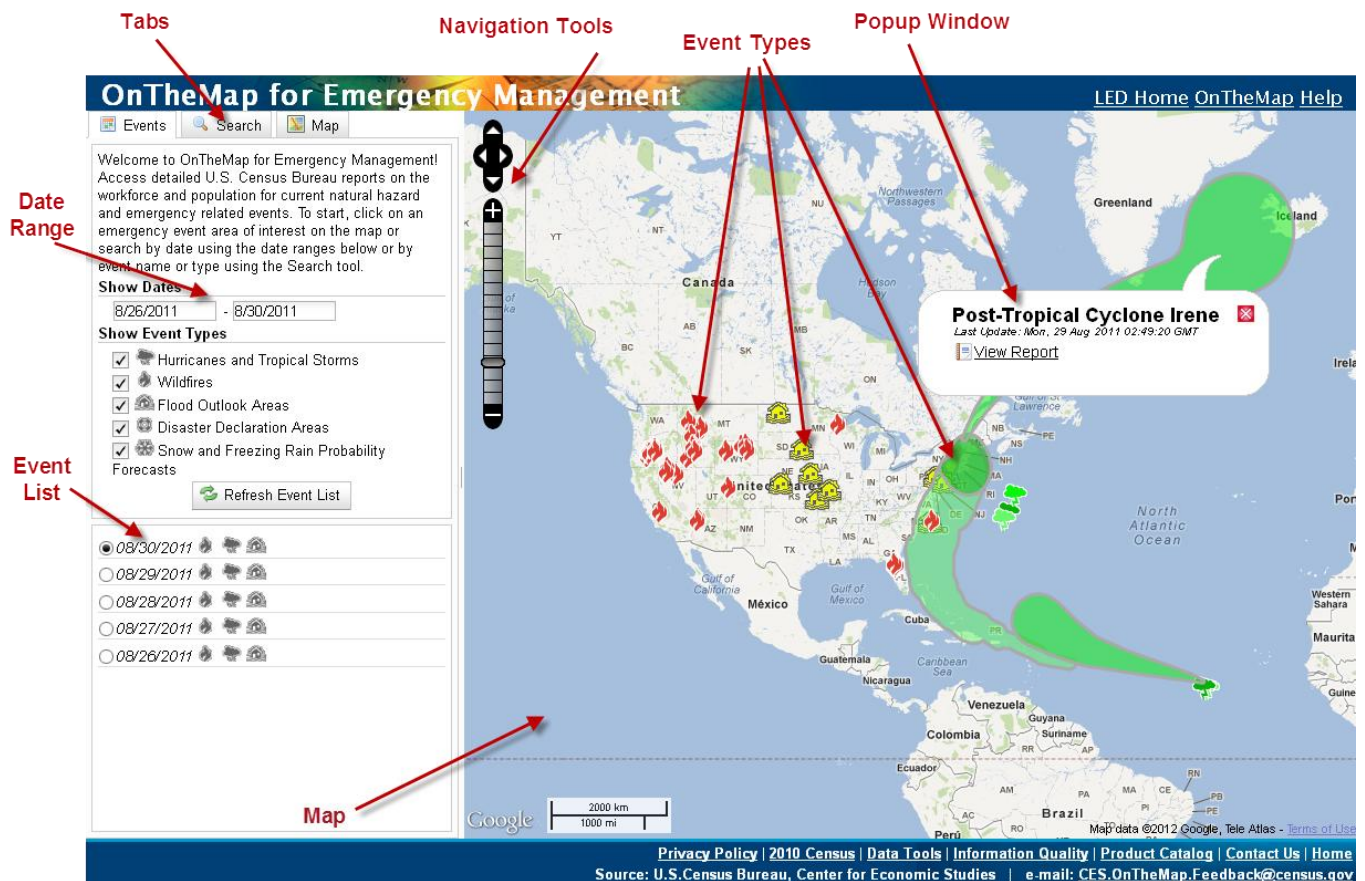
New Analyses & Visualizations- New Reports with Charting & Thematic Map Overlays Showing Population & Worker Distributions

New Interoperability- New Tool for Exporting Event Areas to use in OnTheMap or Other GIS Applications

Updated Interface & Help Documentation- Improved User Interface Speed and Navigability; Improved Event Searching; Newly Updated Help Documentation

User Interface

The OnTheMap for Emergency Management interface has been redesigned to more closely match the OnTheMap user interface. The tools are located in a tab format on the left side of the browser window, with the map now occupying the center and right portions. The new interface format is discussed in greater detail below.



Event List

The event list is located in the lower portion of the Events tab and shows the presence of events on specific dates or time periods. The event icons to the right of the date indicate the event types that occurred on a given day. The map displays the events for the selected date in the event list.

Users can change dates, by simply selecting the radio button next to the date in the list. Note the current date is automatically selected by default.

Map

The map displays all emergency events for the selected date on a Google Maps base map and provides tools for navigation and interaction with individual events.

Map Navigation

Navigating the map is done by panning and zooming to the desired location and scale. The tools included in OnTheMap for Emergency Management are detailed below:

Panning

To move around the map, drag the map in any direction by clicking and holding on the map while moving the cursor.

Zooming

Below are ways to zoom in and out to adjust the scale of the map.

Zoom In or Out: Clicking [+] zooms in towards the center of the map. Clicking [-] zooms out.

Zoom Slider: Dragging the zoom slider up or down the sliding scale incrementally zooms in or out of the map.

Mouse Wheel: Moving the cursor over a location and using the wheel on the mouse (if available) zooms in or out at that location.

Mouse Double-click: Double-clicking the mouse on a location zooms directly in to that location.

Drawing Box: Users may also zoom to a specific area by pressing the shift key and drawing a box over the desired map area.

Map Overlays

Thematic map overlays display automatically when viewing a report for an emergency event area. The overlays are blue-colored shaded areas depicting the relative worker or population density using a five class classification scheme shown at the bottom of the report. The overlays can be viewed at the Place, Tract, County, or State level by using the 'Geography Type' dropdown menu at the top of the Report tab.

Emergency Events on Map

Emergency event or 'layers' (including hurricanes, floods, wildfires, disaster declaration areas, snowfall and ice forecast areas) can be turned on or off by selecting or deselecting the checkboxes next to the event names and icons and then clicking the 'Refresh Event List' button on the Events tab.

The base map can be changed (for example from Roads to Satellite) using the 'Base Map' dropdown menu available at the top of the Map tab.

Viewing Reports

To quickly view the workforce and population reports for an emergency event area, simply click the desired event area on the map. This opens a small popup window displaying the name of the event (if available), the date it was loaded into the OnTheMap for Emergency Management, and a 'View Report' link. Clicking the 'View Report' link automatically opens the Report Tab where several different workforce and population analyses are available. Not, by default, the Worker Area Profile analysis report is displayed when the Report Tab is opened. The map automatically displays the report content as a map overlay.

Tabs

Events Tab

The screenshot shows the 'Events' tab interface. At the top are three buttons: 'Events', 'Search', and 'Map'. Below them is a welcome message: 'Welcome to OnTheMap for Emergency Management! Access detailed U.S. Census Bureau reports on the workforce and population for current natural hazard and emergency related events. To start, click on an emergency event area of interest on the map or search by date using the date ranges below or by event name or type using the Search tool.' Below the message is a 'Show Dates' section with a date range selector set to '4/18/2012 - 4/24/2012'. Underneath is a 'Show Event Types' section with several checked checkboxes: 'Hurricanes and Tropical Storms', 'Wildfires', 'Flood Outlook Areas', 'Disaster Declaration Areas', and 'Snow and Freezing Rain Probability Forecasts'. A 'Refresh Event List' button is located below these checkboxes. At the bottom, there is a list of dates from 04/24/2012 down to 04/18/2012, each with a radio button and a small icon.

The first tab at the top of the Control Panel is the Events tab and is open by default when launching OnTheMap for Emergency Management. The tab contains a welcome message, a date selection tool, a tool for turning events on and off of the map, and an event list.

Show Dates (Date Selection Tool): Clicking on the date range will open a calendar window from which the user can choose a period of time by starting and ending dates. By default, the application opens to show the current day through the previous week.

The screenshot shows a 'Show Dates' calendar window. It has a date range selector at the top set to '4/18/2012 - 4/24/2012'. Below this is a calendar for the month of April. The days of the week are labeled S, M, T, W, T, F, S. The dates 1 through 30 are displayed in a grid. The date 18 is highlighted. Below the calendar is a year selector showing 2011, 2012 (selected), and 2013. At the bottom, there is a date range selector set to '04/18/2012 - 04/24/2012'.

Show Event Type (Event Type Options): Users can choose which events to display on the map by selecting or deselecting the checkboxes next to the event names and icons and then clicking the 'Refresh Event List' button. Clicking the 'Refresh Event List' button redraws the map.

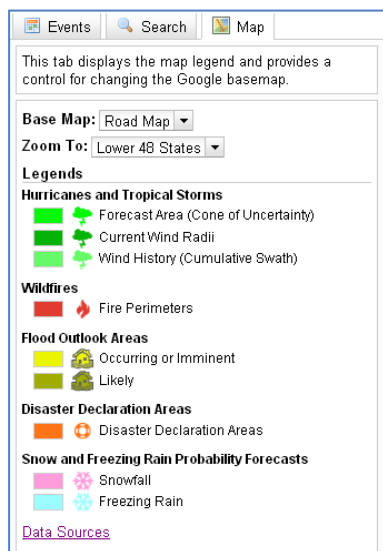
Event List: The Event List shows all of the events selected in the Event Type Options panel for the date range selected with the Date Selection Tool. Events are represented by an icon. Clicking the **Refresh Event List** button will reload the map to reflect the user's desired dates and events.

Search Tab

The screenshot shows the 'Search' tab interface. At the top are three buttons: 'Events', 'Search', and 'Map'. Below them is a search instruction: 'To search for a specific named event or type of hazard (such as 'hurricane Irene' or 'fires'), simply enter the search terms in the text box and press the Search button. Note that Floods, Snow, and Freezing Rain are not named events and can be more easily identified by date.' Below this is a 'Search Term' section with a text input field and a 'Search' button. Underneath is a 'Search for Event Types' section with several checked checkboxes: 'Hurricanes and Tropical Storms', 'Wildfires', and 'Disaster Declaration Areas'.

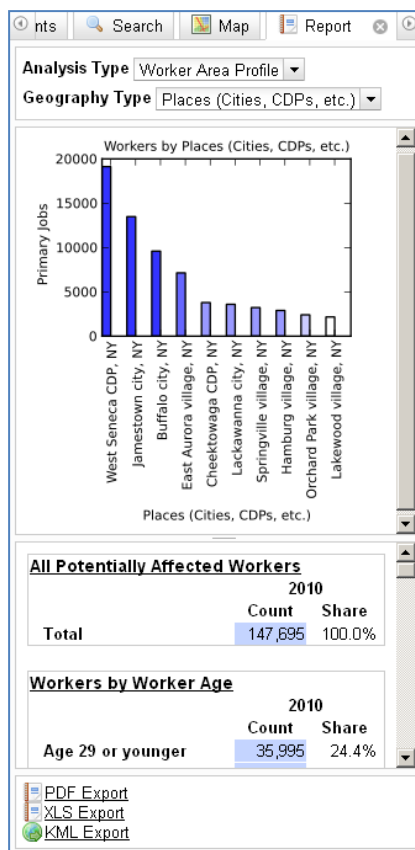
The Search tab allows the user to search directly for specific events or types of events. For example, searching for 'hurricanes' will result in a listing of all hurricanes available in OnTheMap for Emergency Management whereas searching for 'Irene' will return only hurricane Irene. Disaster Declaration Areas can be searched by number. Please note that Floods, Snow, and Freezing Rain events are not given names or other unique identifiers by the NOAA Hydrometeorological Prediction Center and thus cannot be searched for in this manner.

Map Tab



The Map tab displays the map legend explaining what the event icons and colors represent on the map. The Map tab also contains a dropdown tool for changing the Base Map upon which the emergency events are displayed. Options include Road Map, Satellite Map, Hybrid Map (combination of roads and satellite imagery), and Terrain Map. The Map Tab also provides a tool for quickly changing the map extents to automatically zoom to Alaska, Hawaii, or the Lower 48 states.

Report Tab



The fourth tab in the Control Panel is the Report tab which opens automatically when a user clicks 'View Report' from the popup window after selecting an event in the map. The report tab provides a number of different analyses for examining the event area's workforce and population characteristics. Analyses include: Worker Area Profile, Worker Area Comparison, Worker Home Destination, and Population,. Note the Worker Area Profile analysis report and map overlay is displayed by default when the tab is first opened.

The map automatically displays the selected report as a thematic map overlay of blue color shaded areas representing tabulated worker or population counts by geographic area.

The report tab contains three primary sections:

- Analysis and geography type options
- Report chart, data tables, and map legend
- Report Export tools

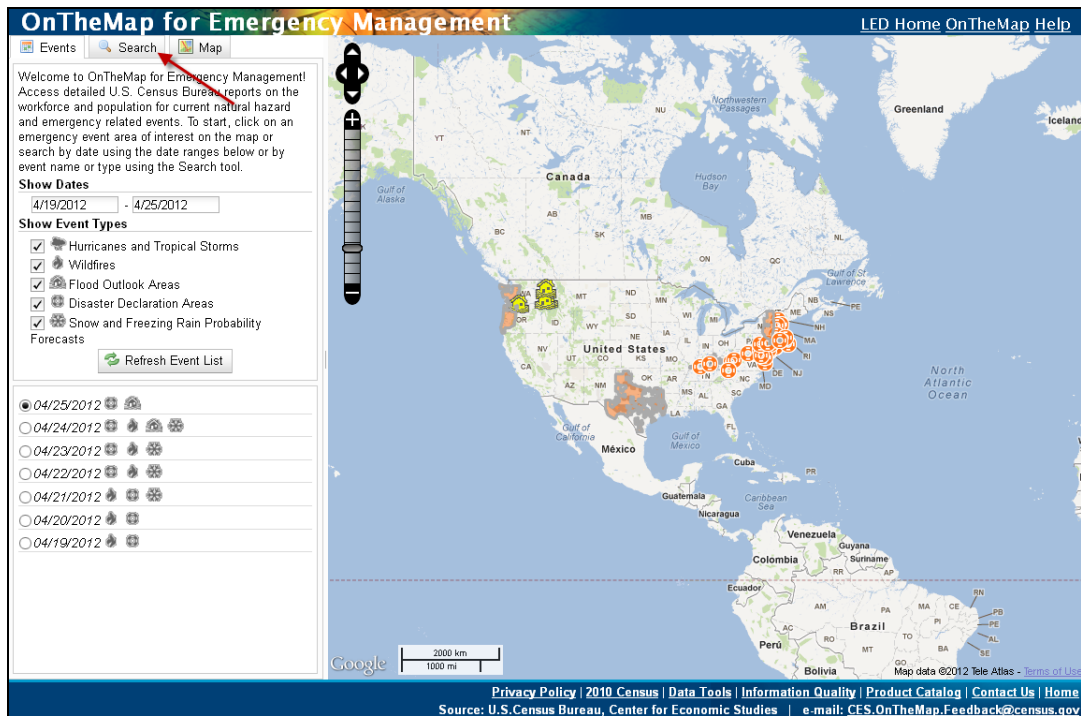
At the top of the report tab are dropdown menus for selecting the analysis and geography type for the report and map overlays. Below these options, the report content is displayed in a chart followed by a series of tables along with the map legend.

At the bottom of the tab are tools for exporting the report to PDF, XLS, and KML files for use in other software. See the OnTheMap for Emergency Management Help page for further details on how to export event areas for use in OnTheMap.

Analysis Walkthroughs

Worker Area Profile – Wildfire Example

How many workers were affected by the Bastrop fire in Texas in 2011?



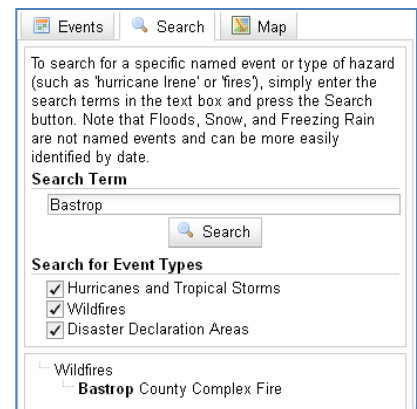
1. Open OnTheMap for Emergency Management at <http://onthemap.ces.census.gov/em.html>.

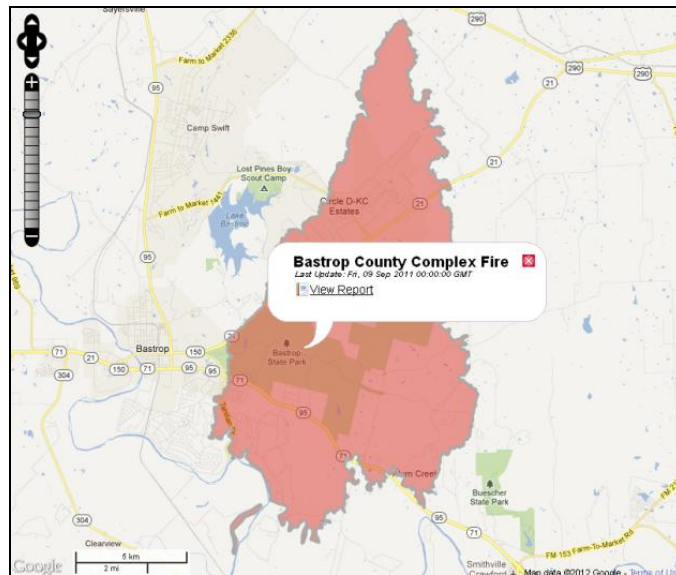
2. Next, search for the Bastrop fire. To do that, Click on the Search tab at the top of the control panel and Type 'Bastrop' in the search box and click Search.

A list of all events with the name Bastrop will appear below the search settings.

3. Click the 'Bastrop County Complex Fire' entry in the list. The map automatically zooms to the Bastrop County Complex Fire.

4. Click anywhere inside the red fire area on the map. This opens a small popup window displaying the name of the fire, the date it was loaded into the OnTheMap for Emergency Management, and View Report link.





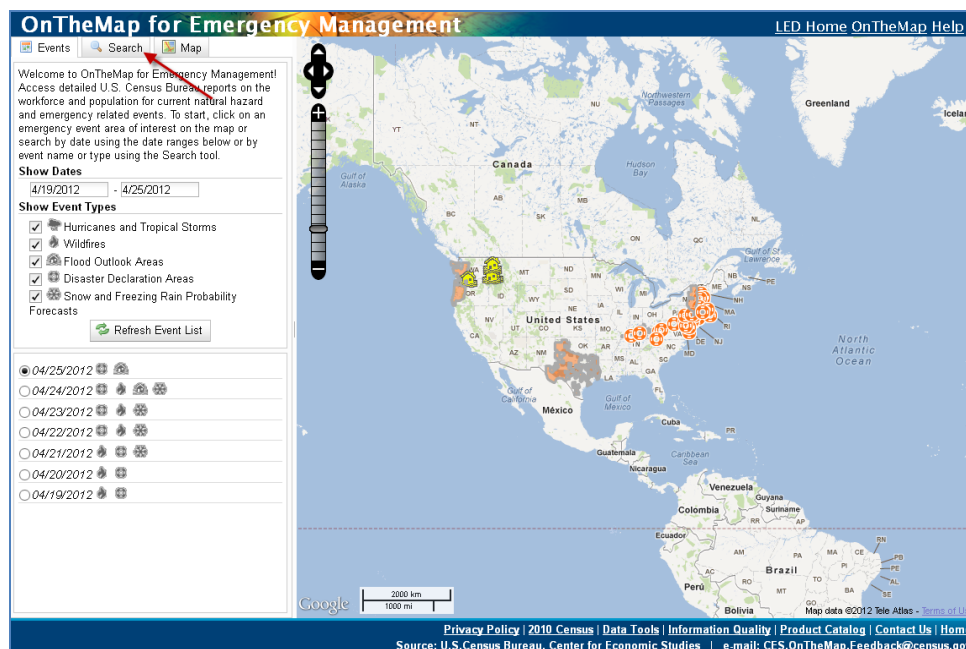
5. Click on 'View Report.'

The Report tab opens automatically, showing a bar chart and series of tables containing the Worker Area Profile analysis report results. The map automatically displays the report content as a map overlay. The first table in the report reveals that 167 workers work within the fire perimeter area and were potentially affected. See the Glossary of Terms available from the [Help page](#) to learn more about the Worker Area Profile Analysis and the data items included.

Worker Area Comparison – Hurricanes & Tropical Storms Example

What workplace locations were affected by 2010's Tropical Storm Bonnie?

1. Open OnTheMap for Emergency Management at <http://onthemap.ces.census.gov/em.html>.
2. Next, search for Bonnie. To do this, click on the Search tab at the top of the control panel and Type 'Bonnie' in the search box and click Search.



3. Type 'Bonnie' in the search box and click Search.

A list of all events with the name Bonnie will appear below the search settings. The map automatically zooms to Tropical Storm Bonnie.

4. Click anywhere inside the green historical wind swath area on the map.

This opens a small popup window displaying the name of the storm, the date it was loaded into the OnTheMap for Emergency Management, and View Report link.

6. Click on 'View Report'.

The Report tab opens automatically, displaying the Worker Area Profile analysis report results. The map automatically displays the report content as a map overlay.

5. Next, change the analysis to 'Worker Area Comparison' from the 'Analysis Type' dropdown menu.

To search for a specific named event or type of hazard (such as 'hurricane Irene' or 'fires'), simply enter the search terms in the text box and press the Search button. Note that Floods, Snow, and Freezing Rain are not named events and can be more easily identified by date.

Search Term

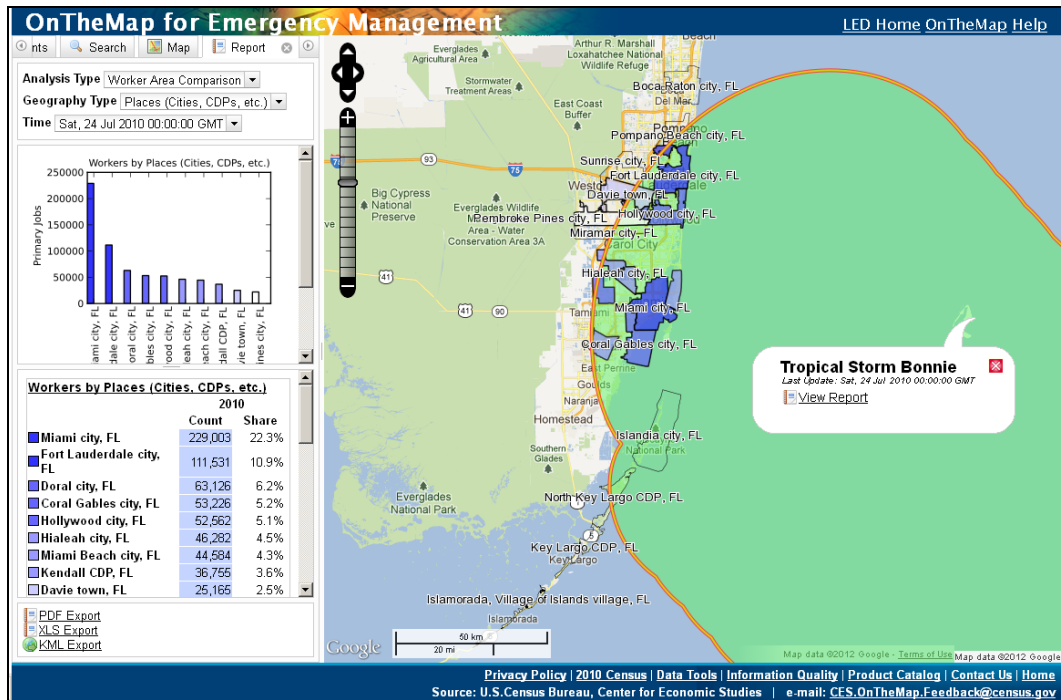
bonnie

Search

Search for Event Types

☒ Hurricanes and Tropical Storms
☒ Wildfires
☒ Disaster Declaration Areas

... Hurricanes and Tropical Storms
... Tropical Storm **Bonnie**



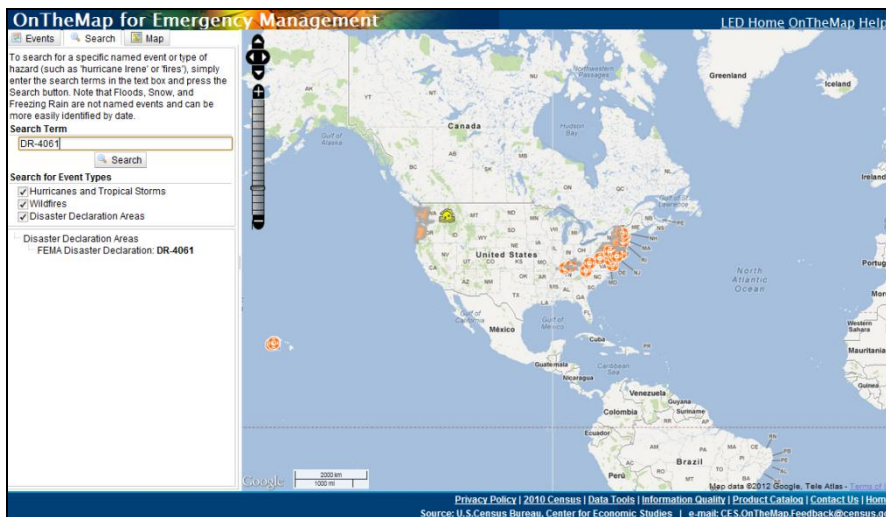
The report displays a chart and table ranking the number of workers by place within the storm wind swath area. This reveals that 229,003 (or 22%) of the affected workers are located in Miami FL. The map displays the same ranking of workers by place in a thematic overlay of blue colored areas. Darker colored areas represent areas with more workers.

Because hurricanes and tropical storms are updated multiple times per day, the report tab includes a 'Time' dropdown menu option for stepping through the report and map overlay results for each of these updates throughout the storm's history.

Worker Home Destination – Disaster Declaration Areas Example

What are the home locations of workers employed within Disaster Declaration Area DR-4061? (DR-4061 was declared for an area of West Virginia affected by Severe Storms, Flooding, Mudslides, and Landslides in March 2012)

1. Open OnTheMap for Emergency Management at <http://onthemap.ces.census.gov/em.html>.
2. Search for DR-4061. To do this, enter 'DR-4061' in the Search Term tool on the Search Tab. Then click the 'Search' button.

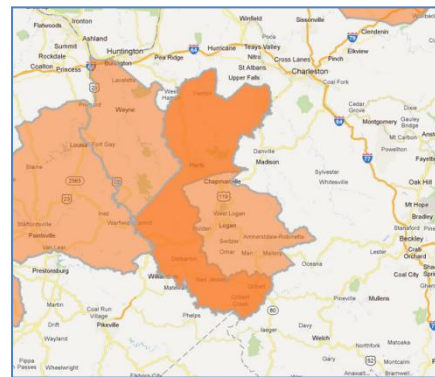


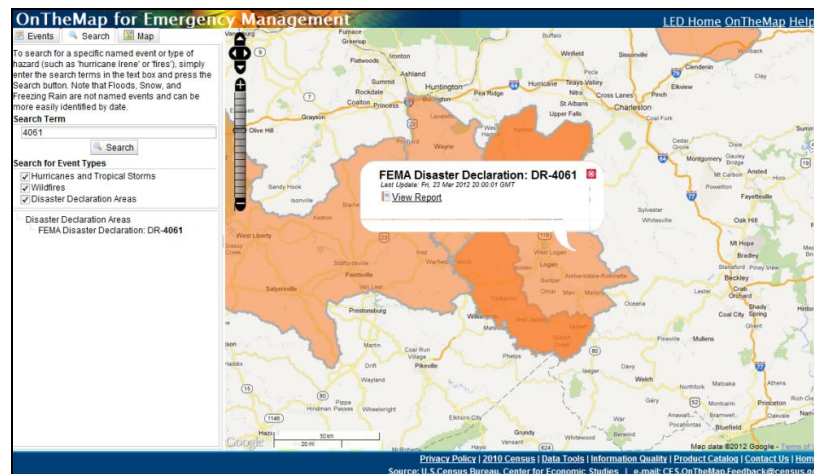
One event with a matching name is returned and listed below the Search Tool.

3. Click on 'FEMA Disaster Declaration: DR-4061' in the list.

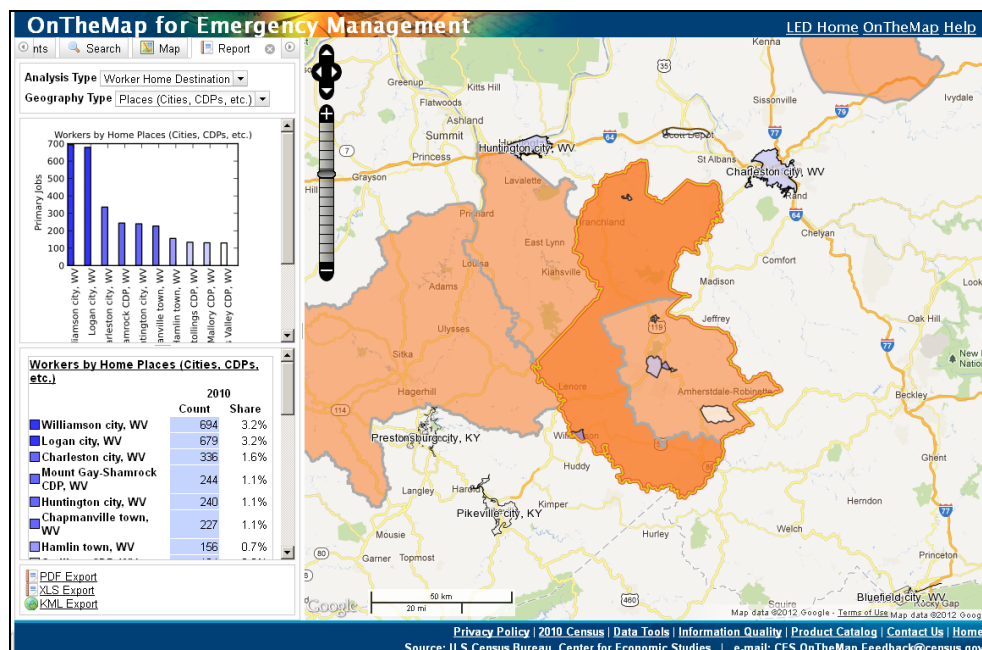
This automatically zooms the map to the location of this disaster declaration- in this case an area southeast of Charleston West Virginia. Note the darker colors represent areas where there are more than one disaster declaration.

4. Next, click inside the light orange area to the right of the dark area on the map.
5. This opens a small popup window displaying the disaster declaration number, the date it was loaded into the OnTheMap for Emergency Management, and the View Report link.





- Click on 'View Report'. Note the Report tab opens automatically, displaying the Worker Area Profile analysis report results. The map automatically displays the Worker Profile report content as a thematic map overlay.
- Next, change the analysis to 'Worker Home Destination' from the Analysis Type dropdown menu. Note the report and map automatically update and now display the Worker Home Destination analysis.



The report displays a chart and table ranking the number of workers within the Disaster Declaration Area by their home location. It reveals that more workers originate in Williamson city and Logan city West Virginia (694 and 679 workers respectively) than any other single community.

Notice also that communities located outside the Disaster Declaration Area, such as Huntington city and Charleston city, are home destinations for significant numbers of workers who work within the area.

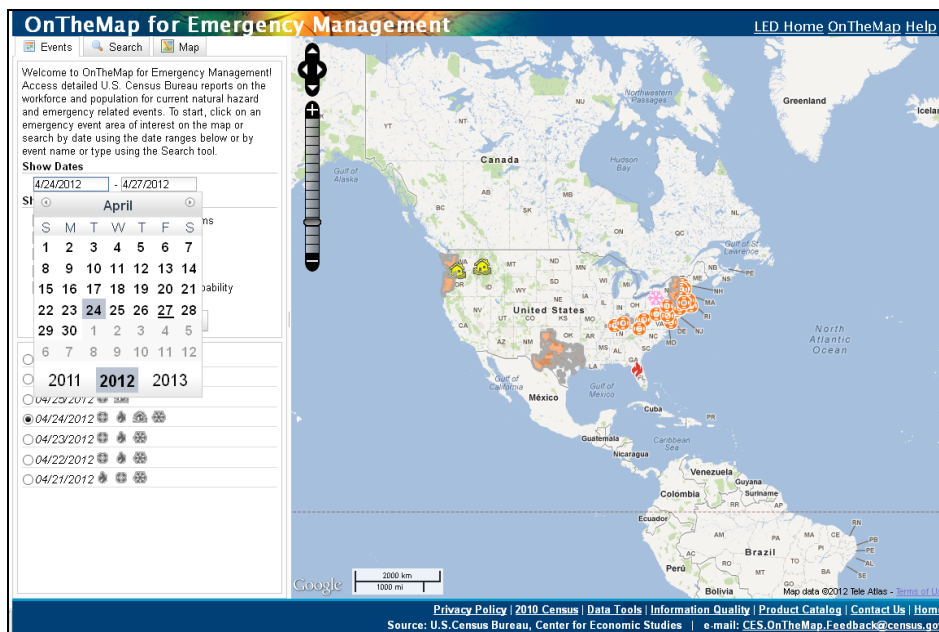
The map displays the same ranking of workers by place in a thematic overlay of blue colored areas. Darker colored areas represent areas with more workers. The Workers by Inflow/Outflow Job Counts table reveals the actual worker counts. Notice that 13,109 workers live in the event

Workers by Inflow/Outflow Job Counts		
	2010	
	Count	Share
Employed in the Event Area	21,542	-
Employed in the Event Area but Living Outside	8,956	-
Employed and Living in the Event Area	12,586	-
Living in the Event Area	25,695	-
Living in the Event Area but Employed Outside	13,109	-
Employed and Living in the Event Area	12,586	-

area but are employed outside whereas 8,956 workers are employed within the event area but live outside.

Population – Snow and Freezing Rain Probability Forecasts Example

Which age group represented the largest share of the population within the area affected by the late-season snowfall south of Buffalo, NY on April 24, 2012?



1. Open OnTheMap for Emergency Management at <http://onthemap.ces.census.gov/em.html>.
2. Change the date to April 24, 2011. (The Show Dates tool displays, by default, the current day and past week.) To change the date range, enter the dates directly in the Show Dates text boxes or click inside the text boxes to open a calendar. Then click 'Refresh Event List'.

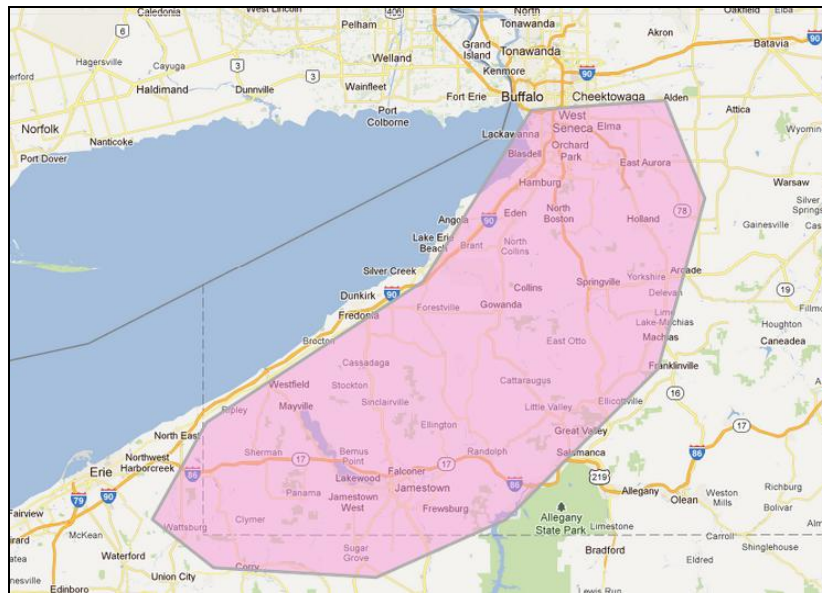
The event list will show each date between the current one and April 24.

3. When the Event List returns the list of dates, click the radio button next to 04/24/2011 to select this date.

The map automatically updates and displays the events that occurred on that date. Notice the snowfall forecast area (represented by a pink snowflake icon) in western NY.

4. Zoom into the area surrounding the snowfall forecast area.

Notice the area covers a large area in western NY, east of Lake Erie and south of Buffalo.



- Click anywhere inside the snowfall forecast area.

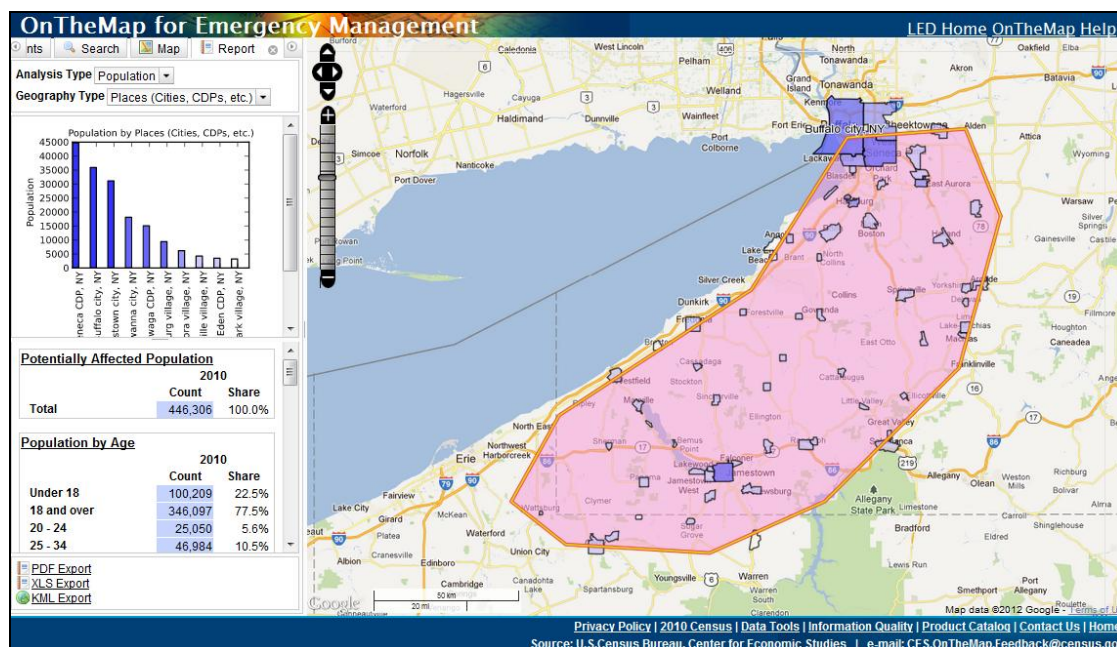
This opens a small popup window displaying the forecast probability details, the date and time OnTheMap for Emergency Management was updated with this snowfall forecast, and the View Report link.

- Click on 'View Report'.

Note the Report tab opens automatically, displaying the Worker Area Profile analysis report results. The map automatically displays the report content as a map overlay.

- Next, change the analysis to Population from the 'Analysis Type' dropdown menu.

Note the report and map automatically update and now display the Population analysis.



The Report tab now displays the Population report, which provides counts of the resident population within the snowfall forecast area including several useful demographic and housing related breakdowns.

The Population by Age table indicates that the Under 18 segment is the single largest in this snowfall forecast area with 100,209 residents representing 22.5% share of the area's total population.

Population by Age		
	2010	
	Count	Share
Under 18	100,209	22.5%
18 and over	346,097	77.5%
20 - 24	25,050	5.6%
25 - 34	46,984	10.5%
35 - 49	92,159	20.6%
50 - 64	97,997	22.0%
65 and above	73,198	16.4%

To see population by county, use the Geography Type dropdown menu and change the geography from Places (Cities, CDPs, etc.) to Counties. The report and map automatically adjust to show the area's population by county.

Analysis Type Worker Origin

Geography Type Places (Cities, CDPs, etc.)

Workers

60000
 50000

Places (Cities, CDPs, etc.)
 Counties
 Census Tracts
 States

Note that although the counties extend beyond the snowfall forecast area boundary, all worker and population counts reported in OnTheMap for Emergency Management are aggregated from Census blocks.

